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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/004,131	10/30/2001	Naoto Matsunami	16869P-036100US	8042

20350 7590 02/28/2006

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EXAMINER

SORRELL, ERON J

ART UNIT	PAPER NUMBER
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2182

DATE MAILED: 02/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/004,131	MATSUNAMI ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Eron J. Sorrell	2182	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 02 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 6,8,11-15 and 17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 6,8,11-15 and 17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413)          |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. <u>20051129</u> .                                    |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____.  | 6) <input type="checkbox"/> Other: _____.                                   |

DETAILED ACTION

*Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okada (US Pub. No. 2002/0023195) in view of Kleiman (U.S. Patent No. 6,961,749).

3. Referring to claim 6, Okada teaches a storage system (see figure 8) comprising:

a plurality of disk array controllers (items 2a and 2b in figure 8) coupled to at least one computer via a network (item 3 in figure 9);

a first connection unit (item 1 in figure 8) coupled between the set of plural disk drive units and the disk array controllers, the first connection unit configured such that any of the disk array controllers can communicate with any of the disk drive units (see paragraph 54 on page 4).

Okada fails to teach a plurality of file servers each comprising a first circuit accepting access from a computer through a file I/O interface, and a second connection unit coupled between the plural disk drive units and the file servers, the second connection unit configured such that any of the file servers can communicate with any of the disk drive units.

Kleiman teaches, in an analogous system, a plurality of file servers (see items 111 in figure 1) each comprising a first circuit accepting access from a computer through a file I/O interface (see lines 38-50 of column 3), and a second connection unit coupled between the plural disk drive units and the file servers (see item 130 in figure 1), the second connection unit configured such that any of the file servers can communicate with any of the disk drive units (see lines 38-50 of column 3).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the system of Okada with the above teachings of Kleiman. One of ordinary skill in the art would have been motivated to make such modification to provide a storage system that is highly scalable which can realize an increased capacity without major system alterations as suggested by Kleiman (see lines 51-63 of column 1).

4. Claims 8 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okada in view of Kleiman as applied to claim 6 above, and further in view of Aruga (U.S. Patent No. 6,542,954).

5. Referring to claims 8 and 18, the combination of Okada and Kleiman teaches the system of claim 6 (see rejection, *supra*), however, the combination fails to teach a second circuit of each of the disk array controllers is a fibre channel controller and one of the disk controllers comprises a first circuit accepting access from a computer through a block I/O interface.

Aruga teaches, in an analogous system, a circuit of each of the disk array controllers is a fibre channel controller and one of the disk controllers comprises a circuit accepting access from a computer through a block I/O interface (see lines 35-45 of column 4, note fibre channel provides access via a block I/O interface).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the combination of Okada and Kleiman with the above teachings of Aruga. One of ordinary skill in the art would have been motivated to make such modification because fibre channel allows

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several disk drive units to be coupled to a single disk array controller as suggested by Aruga (see lines 45-54 of column 1).

6. Claims 11,12, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okada in view of Kleiman as applied to claim 6 above, and further in view of Kern.

7. Referring to claims 11,12, and 15, the combination of Okada and Kleiman teaches the system of claim 6 (see rejection, *supra*), however, the combination fails to teach the plural disk drive units holds said identification information in a specific storage area in the disk drive unit and the controllers searches the specific area to determine if the disk drive unit is accessible, wherein the determination is performed during system initialization.

Kern teaches the plural disk drive units holds said identification information in a specific storage area in the disk drive unit and the controllers searches the specific area to determine if the disk drive unit is accessible, wherein the determination is performed during system initialization (see paragraph 12 bridging pages 1 and 2).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention modify the

combination of Schubert and Chilton with the above teachings of Kern. One of ordinary skill in the art would have been motivated to make such modification in order to easily check access permissions before use as suggested by Kern (see paragraph bridging pages 1 and 2).

8. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okada in view of Kleiman and further in view of Kern as applied to claims 11,12 and 15 above, and further in view of Chilton (U.S. Patent No. 6,732,117).

9. Referring to claim 13, the combination of Okada, Kleiman, and Kern fails to teach the system further comprising a disk pool management unit coupled to said plural disk drive units and a management console, wherein said disk pool management unit stores identification information identifying at least one of said disk array controllers into the specific storage area in some of said plural disk drive units based on an input from said management console.

Chilton teaches, in an analogous system, a disk pool management unit coupled to said plural disk drive units and a management console, wherein said disk pool management unit stores identification information identifying at least one of

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said disk array controllers into the specific storage area in some of said plural disk drive units based on an input from said management console (see item 74 in figure 2 and lines 1-24 of column 8).

It would have been obvious to one of ordinary skill in the art modify the system of Schubert with the above teachings of Chilton. One of ordinary skill in the art would have been motivated to make such modification to provide a dedicated controller to the plural disk units to coordinate multiple data transfers.

#### *Response to Arguments*

10. Applicant's arguments with respect to claim 6 has been considered but are moot in view of the new ground(s) of rejection.

#### *Conclusion*

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).



A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eron J. Sorrell whose telephone number is 571 272-4160. The examiner can normally be reached on Monday-Friday 8:00AM - 4:30PM.

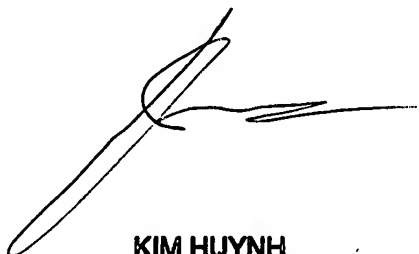
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Huynh can be reached on 571-272-4147. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

EJS

February 16, 2006



**KIM HUYNH**  
**SUPERVISORY PATENT EXAMINER**  
2/17/06